

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in this application.

Listing of Claims*

Claim 1 (currently amended): A TGF- β superfamily chimeric protein, said chimeric protein comprising a dimer wherein one monomer comprises an amino acid sequence from at least two different members of said superfamily; wherein the monomer comprises a finger 1 subdomain, a finger 2 subdomain and a heel subdomain, wherein:

said finger 2 subdomain consists of cDMP-2 (residues 68-98 of SEQ ID NO:86);

said finger 1 subdomain comprises an amino acid sequence from a second, different member of said superfamily or a portion thereof;

said heel subdomain comprises an amino acid sequence from the second, different member of said superfamily or a portion thereof; and

* The amendments recited in the Listing of Claims are the same amendments that were presented in applicant's March 2, 2004 Reply.

wherein said monomer further comprises a conserved C-terminal cysteine skeleton; and wherein said chimeric protein has improved refolding attributes relative to the naturally occurring superfamily member from which the finger 1 and heel subdomains are derived.

Claim 2 (previously presented): The chimeric protein of claim 1, wherein the finger 1 subdomain comprises the amino acid sequence of OP-1 (residues 2-29 of SEQ ID NO: 55) or a portion thereof; and the heel subdomain comprises the amino acid sequence of OP-1 (residues 35-65 of SEQ ID NO: 55) or a portion thereof.

Claim 3 (previously presented): The chimeric protein of claim 1, wherein:

the finger 1 subdomain comprises the amino acid sequence selected from the group consisting of TGF- β 1 (residues 2-29 of SEQ ID NO: 40), TGF- β 2 (residues 2-29 of SEQ ID NO: 41), TGF- β 3 (residues 2-29 of SEQ ID NO: 42), TGF- β 4 (residues 2-29 of SEQ ID NO: 43), TGF- β 5 (residues 2-29 of SEQ ID NO: 44), dpp (residues 2-29 of SEQ ID NO: 45), Vg-1 (residues 2-29 of SEQ ID NO: 46), Vgr-1 (residues 2-29 of SEQ ID NO: 47), 60A (residues 2-29 of SEQ ID NO: 48), BMP-2A (residues 2-29 of SEQ ID NO:

49), BMP-3 (residues 2-29 of SEQ ID NO: 50), BMP4 (residues 2-29 of SEQ ID NO: 51), BMP5 (residues 2-29 of SEQ ID NO: 52), BMP-6 (residues 2-29 of SEQ ID NO: 53), Dorsalin (residues 2-29 of SEQ ID NO: 54), OP-1 (residues 2-29 of SEQ ID NO: 55), OP-2 (residues 2-29 of SEQ ID NO: 56), OP-3 (residues 2-29 of SEQ ID NO: 57), GDF-1 (residues 2-29 of SEQ ID NO: 58), GDF-3 (residues 2-29 of SEQ ID NO: 59), GDF-9 (residues 2-29 of SEQ ID NO: 60), Inhibin α (residues 2-29 of SEQ ID NO: 61), Inhibin β A (residues 2-29 of SEQ ID NO: 62), Inhibin β B (residues 2-29 of SEQ ID NO: 63), CDMP-1/GDF-5 (residues 2-29 of SEQ ID NO: 83), GDF-7 (residues 2-29 of SEQ ID NO: 87), and a portion thereof; and

the heel subdomain comprises the amino acid sequence selected from the group consisting of TGF- β 1 (residues 35-62 of SEQ ID NO: 40), TGF- β 2 (residues 35-62 of SEQ ID NO: 41), TGF- β 3 (residues 35-62 of SEQ ID NO: 42), TGF- β 4 (residues 35-62 of SEQ ID NO: 43), TGF- β 5 (residues 35-62 of SEQ ID NO: 44), dpp (residues 35-65 of SEQ ID NO: 45), Vg-1 (residues 35-65 of SEQ ID NO: 46), Vgr-1 (residues 35-65 of SEQ ID NO: 47), 60A (residues 35-65 of SEQ ID NO: 48), BMP-2A (residues 35-64 of SEQ ID NO: 49), BMP-3 (residues 35-66 of SEQ ID NO: 50), BMP4

(residues 35-64 of SEQ ID NO: 51), BMP5 (residues 35-65 of SEQ ID NO: 52), BMP-6 (residues 35-65 of SEQ ID NO: 53), Dorsalin (residues 35-65 of SEQ ID NO: 54), OP-1 (residues 35-65 of SEQ ID NO: 55), OP-2 (residues 35-65 of SEQ ID NO: 56), OP-3 (residues 35-65 of SEQ ID NO: 57), GDF-1 (residues 35-70 of SEQ ID NO: 58), GDF-3 (residues 35-64 of SEQ ID NO: 59), GDF-9 (residues 35-65 of SEQ ID NO: 60), Inhibin α (residues 35-65 of SEQ ID NO: 61), Inhibin β A (residues 35-69 of SEQ ID NO: 62), Inhibin β B (residues 35-68 of SEQ ID NO: 63), CDMP-1/GDF-5 (residues 35-65 of SEQ ID NO: 83), GDF-7 (residues 35-65 of SEQ ID NO: 87), and a portion thereof.

Claim 4 (canceled).

Claim ⁴/~~3~~ (currently amended): The chimeric protein of claim 1, wherein said finger 1 subdomain comprises the amino acid sequence of OP-1 (residues 2-29 of SEQ ID NO: 55), and said heel ~~domain~~ subdomain comprises a portion of the heel ~~domain~~ subdomain of OP-1 (residues 35-65 of SEQ ID NO: 55).

Claim ⁵/~~8~~ (currently amended): The chimeric protein of claim 1, wherein said protein comprises a dimer having two identical monomers.

Appln No. 09/374,936
Reply and Amendment Accompanying RCE dated June 2, 2004
Reply to Advisory Action dated March 26, 2004

Claims 7-17 (canceled).